Docket No. 98-0497
Staff Ex. 1.0

DIRECT TESTIMONY

OF

Brent A. Struthers

TELECOMMUNICATIONS DIVISION

ILLINOIS COMMERCE COMMISSION

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Q. Please state your name and business address.

A. My name is Brent A. Struthers and my business address is 160 North LaSalle Street, Chicago, IL 60601.

Q. By whom are you employed and in what capacity?

A. I am employed by the Illinois Commerce Commission as an Economic Analyst in the Telecommunications Division.

Q. Please briefly describe your work duties with the Illinois Commerce Commission.

A. My responsibilities include all numbering issues such as number portability, number pooling, and number administration. I also act as an assistant to the hearing examiners on complex arbitration cases and other dockets such as the Ameritech Checklist filing.

Q. Please state your education background and work experience.

A. I received both my Undergraduate and Graduate degrees in telecommunications from Southern Illinois University of Carbondale. I have been at the Commission for almost two years in my current capacity. While at the Commission I have been the sole Staff representative at and a co-chair of the Illinois Local Number

Portability Task Force (LNP Task Force). I was also appointed to represent State Commissions at the federal level in both the Cost Recovery task force of the former North American Numbering Plan Administration (NANPA) Working Group and the North American Numbering Council (NANC) LNP Architecture task force. I am a Co-chair of the NANC Number Resources Optimization (NRO) Working Group subcommittee called the State Issues Task Force (SITF), and was recently named Co-chair of the newly formed NANPA Oversight Committee also operating under the NANC. Further, I am the lead Staff person in the industry number administration and number pooling workshops. I have represented Staff in numerous certification dockets. Since shortly after passage of the Federal Telecommunications Act I have fulfilled my role as an assistant to the hearing examiners for telecommunications-related dockets. In that role, I have edited and drafted portions of orders, and represented them to the Commission at bench sessions.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to provide Staff's insight into:

1) whether or not all 847 code holders are complying with the conservation measures approved in Dockets 97-0192/97-0211 Consolidated; and

2) the possibility of mandatory thousand block return to the number pooling administrator;

3) raising the contamination threshold for returned thousand blocks; and

4) the Number Administrator releasing the reserve of NXX codes for new carriers.

Compliance with Conservation Measures

Q. With regard to the conservation measures, what is your opinion on carrier compliance?

A. Specifically, regarding conservation measure number four[1] and the recall of codes by the number administrator or return of unactivated codes by carriers since Jeopardy was declared in the 847 NPA in May of 1997, the Number Administrator reports a total of 27 full NXX codes have been returned. One individual carrier reports a recent decision to give back another 8 NXX codes in the 847 NPA to the number administrator. Two carriers report having currently unactivated codes within the 847 NPA that were assigned to it prior to April 1, 1998. One carrier has one unactivated code which it is in the process of activating following some 9-1-1 testing. Another carrier has a total of 10 NXX codes distributed throughout various rate centers. The reason the second carrier gives for the delay in activation is a delay in having its initial switch

[1] A code holder must file a Confirmation of Code Activation with the administrator within 90 days after the code is activated. NXX codes not activated in a timely manner are subject to reclamation by the number administrator.

installed. Their activation date, originally scheduled for May has been pushed out to August. According to the numbers received by Staff, this is the only instance in 847 where an assigned NXX Code has stood unactivated for more than 90 days and not been returned to or recalled by the Number Administrator.

Q. Do you believe that the recall of these NXXs would have a significant effect on the life of the 847 NPA?

A. While the carrier's data is not entirely clear, it appears that a portion of each one of these NXXs has been donated to the pooling administrator for use in the number pools. If this is the case, the numbers held by the carrier may not be whole 10,000 number NXXs but partial NXXs. The number administrator cannot recall or accept for return partial NXXs. If, in fact, the NXXs remain whole, then they may be returned or recalled. Based on the rate NXXs in the 847 NPA were being allocated, at five per month under the jeopardy guidelines, the return of 10 NXXs to the Code Administrator could add 2 months to the life of the 847 NPA. The jeopardy assignment guidelines of five NXXs per month adopted by the industry was done so with a planned end date. However, the industry cannot operate on a long term basis with a total industry allocation of 5 NXXs per month. The jeopardy guidelines adopted by the industry that allow for the assignment of only five NXXs per month are a drastic short-term measure. In fact, during the last industry meeting, at which the industry voted to move the

847 NPA relief date out to January 23, 1999, the industry voted to halt the 5 NXX per month maximum and will address whether to reinstitute it at the September 3, 1998 industry meeting.

Q. Are there any other policy consideration to take into account prior to mandating return of these NXXs?

A. Yes. If the carrier follows its current schedule for turning up service, a Commission order requiring the return of these NXXs would likely come on or near the date the carrier currently holding the NXXs has planned to activate the codes. A mandated return of these codes might put the carrier in a position where it would need to delay initiation of its service in order to apply for more resources to immediately replace the ones it was just required to return to the number administrator. The carrier might then be able to replace most of the NXXs with thousand blocks from the pooling administrator, but because of the timing involved, the carrier might also be put at a temporary disadvantage in terms of not having resources to serve customers on its planned date of service initiation.

Q. Should the Commission order the return of these NXX codes to the number administrator?

A. In my opinion, to do so at this point would likely leave this carrier scrambling to get number resources for its planned August initiation of service, a result that may be considered unreasonably discriminatory against a single carrier. Although, I believe the carrier is in technical non compliance, I also believe that the proximity of its service initiation date and the short two-month extension warrant special consideration. Further, the Commission must decide whether or not it has the jurisdiction to order carriers to return NXX codes, a legal issue better addressed in briefs.

Q. Are carriers in compliance with the other conservation measures?

A. Before addressing whether or not carriers are in compliance with all of the conservation measures, I must address the issue of whether or not Staff should be put in the position to judge compliance and, therefore, a carrier's right to request additional numbering resources. . To do so would put Staff in the role of the number administrator, a role which it is not capable of handling on any type of a long-term basis. It is my non-legal opinion that the proper party to address compliance is the number administrator and only the number administrator. While data may be collected that provides a snapshot of carrier compliance, that snapshot may quickly be out-of-date. Per the conservation measures, each time a carrier requested another NXX or thousand block from the Number or Pooling

administrator, Staff would need a new snapshot of the requesting carrier's data to measure compliance. Further, each time a carrier sought to use a new thousand block within an already assigned NXX, a snapshot of the carrier's data demonstrating compliance would need to be provided to Staff. No data of this sort is generated or reported by carriers today. It would be necessary for Staff to receive and track this information until at least the exhaust of the 847 NPA. Staff would then need to report to the Commission on compliance issues, and then the Commission would need to decide whether or not a carrier should receive numbers. The underlying jurisdiction for this type of action will be addressed in Staff's legal briefs. Regardless of the jurisdictional issues, Staff does not currently have the resources to handle such an assignment.

Q. Can you address each conservation measure giving your opinion on compliance?

A. Yes. With respect to conservation measures 1,2,3,4, and 6, Ameritech, in its role as Number Administrator, stated in its June 19, 1998 report that it would not assign an NXX to a carrier unless that carrier confirmed compliance with these measures. It is not clear in what form the Number Administrator has required confirmation of compliance. Staff would suggest that some written statement of compliance is necessary. With respect to conservation measures 5, 7, and 8 the Number Administrator would have no way of confirming compliance with these measures. Except when wireline carriers go to the Pooling Administrator to

request additional thousand blocks, they do not go outside their own systems to open a new thousand block. The only manner to confirm compliance with these measures is for each carrier to confirm compliance in writing with the Commission or Commission Staff each time it would seek to open a new thousand block. Beyond a simple confirmation of compliance filed by each carrier, the data required to allow Commission Staff to judge compliance in each specific case would overwhelm current Staff resources. In my opinion, the only currently available means of judging compliance is written confirmation by each carrier that they are in compliance. Since carriers are obligated to be in compliance with Commission Orders anyway, this step would largely be duplicative.

Q. Based on the available data collected at the request of Staff and CUB, can Staff judge carrier compliance with the conservation measures.

A. Aside from conservation measure 4, no. Staff can only judge carrier compliance on the exact date for which the data was provided. Because the data changes constantly, judgment of current compliance based on data from a past date would be inaccurate. For instance, where a carrier may have had only 300 assigned numbers within a thousand block on June 30, 1998, it may have had a customer request from a business for 600 more numbers since allowing it to open up a new thousand block in compliance with measure 5. Without data provided each time a carrier desires to open up or request additional resources,

a precise judgment on compliance is impossible. An inaccurate judgment on compliance based on out-of date numbers might unjustly deny a carrier access to the numbers needed to compete.

Thousand Block Return

Q. Based on the data you received, is a mandatory thousand block return to the Pooling Administrator warranted?

A. The data I received shows that a mandatory thousand block return, using current 10% contamination levels, would make available an additional 555 uncontaminated thousand blocks and 322 contaminated thousand blocks with less than 10% of the numbers assigned.[2] In order for the thousand block return to be warranted, the potentially returned blocks would need to be located in rate centers in which current thousand block donation is insufficient to meet demand. Those rate centers are identified in the most current forecast provided by the Pooling Administrator.[3] The Pooling Administrator has identified the rate centers in which the donated blocks are insufficient to meet forecasted demand. It has done so on a quarterly basis. Insufficient resources force the Pooling Administrator to request full NXX codes from the Number Administrator. For example, through the 3rd quarter of 1998, the Pooling Administrator's forecast shows a need for NXX replenishment in 19 of the 42 rate centers. Through the

[2] See Appendix A

4th quarter of 1998, the Pooling Administrator's forecast shows a need for NXX replenishment in 35 of the 42 rate centers. This would result in a need for 44 new NXX codes to be assigned to the Pooling Administrator for pool replenishment through the end of the year. Based on current carrier forecasts, mandatory give-back of all available uncontaminated thousand blocks would bring the number of 19 rate centers needing replenishment down to 13 through the 3rd quarter of 1998. Mandatory give-back of all available uncontaminated thousand blocks would bring the number of 35 rate centers needing replenishment down to 23 through the 4th quarter of 1998. With mandatory give-back of all uncontaminated NXXs, the number of NXXs required for pool replenishment by year's end would drop from 44 to 28.

The mandatory return of all uncontaminated and 10% contaminated blocks would result in 8 pools needing replenishment through the 3rd quarter of 1998 and 14 through the 4th quarter of 1998. The number of NXXs required for pool replenishment through the end of the year would drop to 16. However, even with a mandatory give-back of all uncontaminated and 10% contaminated NXXs, the number pooling administrator would require a total of 76 NXXs for pool replenishment through the 3rd quarter of 1998. Based on the data I received, the greatest benefit would be derived from a mandatory thousand block return of both uncontaminated and 10% contaminated blocks. This does not eliminate the use of new NXXs by wireline carriers, but it does limit it significantly. From a

[3] See Appendix B

policy perspective, a mandatory give-back would be warranted depending on changes to carriers' forecasts.

Q. Would current carrier forecasts change with a mandatory give back of thousand blocks?

A. In my opinion, they would change dramatically.

Q. How would the forecasts change?

A. The forecasts would likely change to show a much greater need for thousand blocks per rate center.

Q. What causes this?

A. When carriers first provided forecasts to the Pooling Administrator, I assume they based their forecasts on the number of thousand blocks they would require in addition to those they already had in their inventory. By now mandating they give back to the Pooling Administrator their current inventory of thousand blocks, they would need to submit new forecasts taking into consideration a more

depleted inventory. This would likely lead to the forecast of larger numbers of required thousand blocks possibly raising the levels of forecasts to equal the number of thousand blocks given back pursuant to a Commission order to give back all available thousand blocks.

Q. From this information can you approximate how long a mandatory give-back policy would extend the life of the 847 NPA?

A. No. Depending on the change it causes in carrier forecasts it may or may not extend the life of the NPA. Further, a mandatory give back does nothing to affect the NXX demand of new and wireless carriers.

Raising Contamination Levels

Q. What effect would the raising of the allowable contamination levels have?

A. The data provided to me shows that a move to:

20% contamination would yield 127 more NXXs
30% contamination would yield 227 more NXXs
40% contamination would yield 319 NXXs
50% contamination would yield 402 NXXs[4]

[4] These figures are cumulative (i.e. a move from 20% to 30% contamination would yield 100 extra NXXs)

For the less established carriers with lower utilization rates (CLECs), as the levels of contamination rise the number of blocks at that level is reduced. For more established carriers, like the ILEC, with higher utilization levels on average, one could expect as contamination levels rise the number of blocks at the higher levels would gradually increase. Therefore, the effect of raising the contamination levels would be to retrieve more blocks from carriers with higher utilization rates.

Q. Should the Commission raise the allowable contamination levels?

A. No. I do not believe it should.

Q. Why?

A. The 10% maximum contamination level was agreed upon in industry fora, not just in Illinois, but in other areas of the country as well. While it is not yet the official standard, it is likely the de facto standard. Many parties were involved in this decision. One of the most important parties involved was Lockheed Martin, the Pooling Administrator in Illinois. They and others involved in the 10% contamination standard have not been made parties to this proceeding, therefore, important voices would be shut out of a Commission decision on this matter. This Commission has achieved a great deal by working with industry on technical numbering issues such as local number portability and number pooling

and respecting industry decisions such as the standards developed around the different numbering issues. The 10% contamination issue is one such industry developed standard. It is my opinion that this Commission should not unilaterally change the 10% contamination standard agreed to by industry. This is especially true without discussion of the possible nationwide implications of making such a change.

Q. What are some of the nationwide implications of raising the contamination levels?

A. The Commission limited number pooling to the 847 NPA until a solution to service control point (SCP) capacity exhaust could be implemented. The current solution being developed to address SCP capacity exhaust is efficient data representation (EDR). Currently, each time a block of one thousand numbers is ported for the purposes of pooling, each one of the 1,000 numbers must be represented within carriers' SCPs by an independent entry in the SCP. EDR allows an aggregation of the 1,000 independent entries to as few as one single entry representing 1,000 numbers. The use of EDR to aggregate independent entries relies on having consecutive blocks of numbers. Contaminated thousand blocks are less likely to have consecutive blocks of numbers. The higher the level of contamination the less likely the existence of consecutive blocks of numbers. Therefore, the less likely the eventual availability of EDR could alleviate the potential of SCP capacity exhaust. Further, moving to higher and

higher levels of contamination brings us closer to what is termed individual telephone number pooling (ITN). This is pooling whereby carriers receive numbers in blocks as small as one. This type of pooling has not yet been accepted by the industry. In fact, there is widespread national debate about the technical feasibility and reasonableness of ITN. The development of ITN is expected to be a major issue in a September 23, 1998 report from the NANC to the FCC. Commission Staff is involved in the different Task Forces putting together that report. In my opinion, the Commission should not go beyond the 10% contamination level at this point.

Q. Are there other possible problems with raising the levels of contamination for donated blocks?

A. Yes. While moving to higher levels of contamination would generally have greater effects on those carriers with considerably larger number inventories and higher utilization rates (ILECs), it may also have a prejudicial effect on newer carrier with fewer reserves but higher fill rates. Two such carriers (Carriers A & B) in the 847 NPA would be so affected by moving to higher levels of contamination. Under a mandatory give-back, moving to only a 20% maximum contamination level would leave Carrier A with only 36% of its current inventory and Carrier B with only 35%. Moving to a maximum 30% contamination level would leave Carrier A with 29% of its original inventory and Carrier B with 8%. Moving to a 40% level would leave Carrier A with 13% of its original inventory

and Carrier B with 3%. Finally moving to a 50% level would leave Carrier A with 9% of its original inventory and Carrier B with 1%. This includes leaving both carriers with zero or near zero inventory in rate centers in which they currently operate. For instance, at 40 % contamination both Carriers A and B would have no resources in half of the rate centers in which they operate. This, of course, would severely limit their ability to compete in those rate centers. Moving to a 50% contamination level would deplete both carriers' resources almost entirely. In my opinion, both of these carriers have been prudent in the manner in which they have assigned numbers and given numbers back to the pooling administrator. For example, Carrier A voluntarily gave 78% of its original numbering resources to the pooling administrator for use by other carriers. Moving to higher levels of contamination with mandatory give-back, in my opinion, would unnecessarily punish these companies that seemed to have worked diligently to take and assign numbers in an efficient manner.

Release of NXX Reserves

Q. What effect would releasing the NXXs in reserve for new carriers have on the life of the 847 NPA?

A. Currently, 9 new entrants have indicated the need for an 847 NXX. Another 20 have not responded to Number Administrator queries as to whether or not they require one. This means that 29 NXXs are currently on hold for new carriers. With the 847 NPA near exhaust this is a substantial number of NXXs to have unavailable. With the rate of current assignment at five NXXs per month, the release of these 29 NXXs would allow a five month extension in the life of the 847 NPA. Of course, this assumes the jeopardy-based assignment rate of five per month is established on more of a long-term basis which I discussed earlier in my testimony.

Q. Is there a possibility that the number of carriers for which codes are being held might change?

A. Yes. In fact, the number is likely to change. There is the possibility that some of the 34 carriers will contact the Number Administrator and waive the NXX code being held for them. There is also the distinct probability that new carriers will

be certificated by the Commission and, under the Number Administrator's reading of the FCC rule, become eligible for at least one NXX code in the 847 NPA. Between April 1, 1998 and July 1, 1998 12 carriers filed for certification to provide facilities-based local exchange services, an average of four new applications per month. On July 1, 1998, there were 22 certificates to provide facilities-based local exchange services pending. Each of these carriers included the Chicago area in their requested service territory and would be eligible for an 847 NXX code.

Q. Should the Commission order the release of the reserved NXXs?

A. The Commission could order all the NXXs to be released for general assignment. It could also order LNP capable carriers to take thousand blocks instead of full NXXs. The possibility also exists that once a new carrier receives its 847 NXX code that that carrier would give all but one thousand block back to the pooling administrator. However, in order to make this decision it would require an interpretation of the FCC rule which the Number Administrator has used to make its assertion that 29 NXXs must be held in reserve. This issue would be better addressed in legal briefs.

Q. Would you summarize your testimony and state your opinion regarding the exhaust date in area code 847?

A. Yes, My estimate of the date of 847 NXX exhaust is based on a number of factors discussed throughout my testimony. Whether or not carriers are complying with the Commission adopted conservation measures is one factor to consider. It appears, in large part, that carriers are complying with the fourth conservation measure by returning codes to the Number Administrator they have no need to activate. 27 NXX codes have been returned and at least 8 more look to be in the return process. Two carriers are in violation of the Commission order, but a recall of their NXX codes would likely not buy much time for 847 and would potentially threaten at least one carrier's ability to offer service.

Another factor to consider is mandating that all wireline carriers return all available uncontaminated and less than 10% contaminated 847 thousand blocks to the Pooling Administrator. Under a best case scenario, one in which carrier forecasts for thousand blocks do not change, this would quell wireline demand for full NXXs by making available a great many more thousand blocks through the Pooling Administrator. At that point, the main sources of demand for NXXs would be wireline carriers applying for an initial NXX code, and wireless carriers NXX demands.

Although raising the maximum contamination level above the current level of 10% could increase the number of thousand blocks returned to the Pooling Administrator, there are other mitigating factors causing Staff to advise the Commission not to raise the rate. The 10% contamination level has been generally accepted across the industry. While some carriers believe higher levels are more appropriate, others believe that higher levels are not technically feasible or advisable. The issue of higher levels of contamination is being addressed in numerous industry fora. Staff believes

the industry fora are more appropriate settings in which to work out issues like SCP capacity, the use of EDR, or the move to ITN. Further, raising the maximum contamination levels with a mandatory give-back would have the unintended effect of leaving a couple of carriers without the resources to continue to offer service and compete in a number of areas.

One final factor to consider is the FCC rule which the number administrator interprets as saying that it must reserve 847 NXX codes for new entrants up to 90 days prior to the implementation of the new NPA. Should the 29 NXXs now being held for new entrants be released, it would add to the number of NXXs assignable to existing carriers. However, 29 is not a static number and Commission Staff must advise the Commission whether or not it believes the Commission has the jurisdiction to order the release of the held NXX codes.

In terms of forecasting the remaining life of the 847 NPA, there are both direct and indirect factors that must be taken into consideration. The direct factors are:

1) Wireline carrier demand for NXXs
2) Wireless carrier demand for NXXs
3) New Entrant demand for NXXs
4) Total NXXs available for assignment in 847

The indirect factors are:

1) Effect of the conservation measures
2) Possibility of mandated thousand block return
3) Change in carrier forecasts with mandatory return
3) Possibility of releasing the NXXs being held for new entrants

4) The number of new entrants refusing an 847 NXX

5) The number of new entrants certificated by the Commission

6) The length of time the jeopardy assignment guidelines are continued

The number of total 847 NXXs available for assignment is known. The demand for NXXs by wireline and wireless carriers is also known. Wireline demand can be quelled by the adding more thousand blocks to the pool, possibly through mandating thousand block return. However, a mandated thousand block return may have the effect of changing carrier forecasts. Both wireless and wireline demand can be negated with the indefinite continuance of the jeopardy guidelines allowing assignment of only 5 NXXs per month. These guidelines have the effect of capping the total assignable NXXs regardless of carrier demand. The new entrant demand for NXXs stands at 9, but could possibly be many more depending on the carriers not yet responding to the number administrator's queries as well as on the number of new entrants certificated by the Commission. However, these factors might be negated by a ruling which releases the held NXXs for general assignment.

The unknown factors are how carrier forecasts might change with a mandated thousand block return, the number of new entrants requesting at least one 847 NXX code under the FCC rules, the effect of the conservation measures, and the length of time the jeopardy assignment guidelines should be continued. Because of the important, yet unknown effect of these factors, I cannot say precisely how long the 847 NPA could last. However, experience tells me that number pooling, the conservation measures, and everything else implemented to save the 847 NPA were probably

initiated too late. In my opinion, the 847 NPA will exhaust within the next year and area code relief will be necessary. The key to success with number pooling is implementing it early on in the life of the NPA.

Q. Does this conclude your testimony?

A. Yes, it does.